

Patent Claims

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1. A method for adjusting a sensor device for determining the rotational position of an electronically-commutated motor having a rotor and a stator, where the sensor device is mounted in a specific position relative to the rotor, the increments generated by the sensor device during a revolution of the rotor are recorded,
the angular position of the rotor during a revolution of the rotor are recorded, the recorded angular position and the sensor device increments are correlated and the correlation of the recorded angular position with the sensor device increments are subsequently saved.
2. Method according to claim 1, c h a r a c t e r i z e d in that each sensor device increment is allocated to a specific angular position of the rotor.
3. Method according to claim 1, c h a r a c t e r i z e d in that the sensor device generates a zero index and the number of sensor device increments lying between the generation of the zero index and a motor commutation angle are counted.
4. Method according to claim 3, c h a r a c t e r i z e d in that the number of sensor device increments lying between the generation of the zero index and each motor commutation angle are counted.
5. Method according to claim 3, c h a r a c t e r i z e d in that the number of sensor device increments from the zero index to the motor commutation angle are saved.

6. Method according to claim 1, c h a r a c t e r i z e d in that the angular position of the rotor is recorded with a position sensor for sensor device adjustment, the resolution of this position sensor being equivalent to or higher than the resolution of the sensor device.
7. Method according to claim 1, c h a r a c t e r i z e d in that angular positions of the rotor between two sensor device increments are interpolated.
8. Method according to claim 1, c h a r a c t e r i z e d in that the motor is powered, and the voltage induced by the motor is recorded, the angular position of the rotor and a sought commutation angle being derived from the induced voltage.
9. Method according to claim 8, c h a r a c t e r i z e d in that a signal is generated when recording the sought commutation angle which characterizes the recorded angular position as the commutation position.
10. Method according to claim 8, c h a r a c t e r i z e d in that several commutation angles are derived, these depending on the ratio of the number of motor poles involved.
11. Electronically-commutated motor including a rotor, a stator and a sensor device utilized for recording the rotational position of the rotor, the sensor device being mounted in a specific position relative to the rotor, with a storage unit for saving a correlation of the rotor angular position and the sensor device increments, and a control unit for motor control according to the sensor device output signals and the saved correlation.

12. System for adjusting a sensor device for determining the rotational position of a rotor in an electronically-commutated motor including a rotor, a stator and a sensor device, the system comprising:

5 a phase measuring unit for measuring the voltage induced by the rotor while the motor rotor is rotating;

a commutation computer for calculating the commutation instances based on the induced voltages;

10 a signal pulse generating unit which receives an input signal from the commutation computing unit and generates a signal pulse for every commutation instance, transmitting these to the motor;

and a storage unit for saving the correlation between commutation instances and sensor device increments.

13. System according to claim 12, c h a r a c t e r i z e d in that an additional reference position sensor is provided on the motor for adjusting.

14. System according to claim 13, c h a r a c t e r i z e d in that the reference position sensor has a higher resolution than that of the sensor device, and the reference position sensor increments and the sensor device increments are correlated.